PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE MODIFICATION OF THE EXISTING TRAFFIC CONTROL SIGNAL TO UPGRADE THE VEHICLE DETECTION AT THE INTERSECTION OF MD 139 (CHARLES STREET) AND MALVERN AVENUE/GBMC ENTRANCE IN BALTIMORE COUNTY, MARYLAND. MD 139 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE MD 139 APPROACHES OPERATING CONCURRENTLY AND THE MALVERN AVENUE/GBMC ENTRANCE APPROACHES OPERATING CONCURRENTLY.

EXCLUSIVE LEFT-TURN PHASING IS PROVIDED FOR THE NORTHBOUND AND SOUTHBOUND MD 139 APPROACHES.

A RIGHT TURN OVERLAP PHASE IS PROVIDED FOR THE GBMC ENTRANCE/EXIT APPROACH.

CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH ONE (1) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS, SYSTEM PACKAGE, VIDEO INTERFACE EQUIPMENT (1-8 CAMERAS), INTERSECTION MONITOR WITH BATTERY BACKUP FOR PHONE DROP AND ASSOCIATED HARNESSES HOUSED IN A NEMA SIZE "S" BASE MOUNTED CABINET.

PHONE DROP

UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410) 787-7635 TO ARRANGE FOR THE PHONE LINE INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER THE NEAREST STREET ADDRESS, ZIP CODE, AND PHONE NUMBER.

MAINTENANCE OF TRAFFIC

THE FOLLOWING TRAFFIC CONTROL STANDARDS SHALL BE REFERENCED FOR THE PROJECT. ADDITIONAL TRAFFIC CONTROL STANDARDS MAY BE USED AS DIRECTED BY THE ENGINEER.

STANDARD NO. MD-104.04-02 (SHOULDER WORK)
STANDARD NO. MD-104.04-04 (LEFT LANE CLOSURE)
STANDARD NO. MD-104.04-06 (RIGHT LANE CLOSURE)
STANDARD NO. MD-104.04-14 (LEFT TURN BAY CLOSURE)
STANDARD NO. MD-104.04-16 (INTERSECTION LEFT LANE, TURN BAY)

PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MS. ERIN KUHN
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: (410) 229-2381

MR. ANDRE FUTRELL
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (410) 229-2361

MR. MIKE PASQUARIELLO
DISTRICT UTILITY ENGINEER
PHONE: (410) 229-2341

MR. ROBERT SYNDER
ASSISTANT CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7631

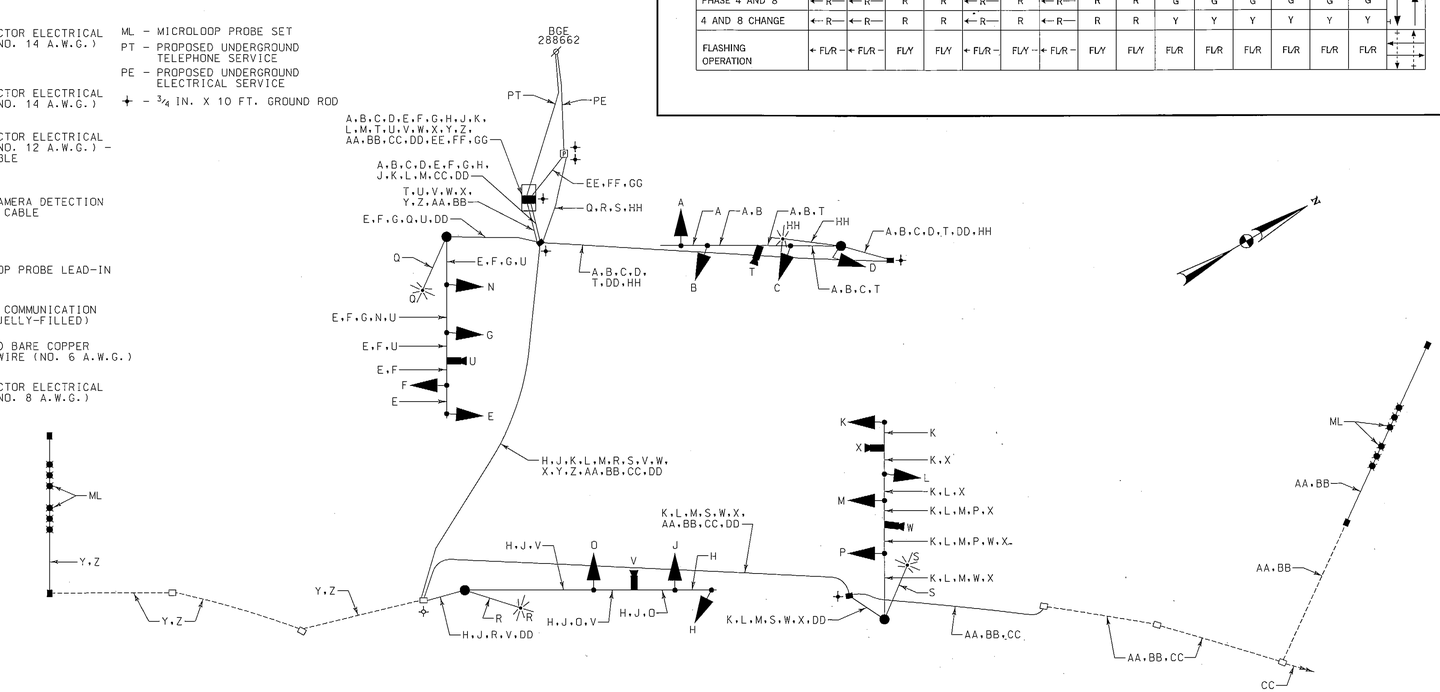
MR. RICHARD L. DAFF, SR.
CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630

WIRING DIAGRAM

WIRING KEY

A, B, C, D, E, F, G, H, J, K, L, M — 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
N, O, P — 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
Q, R, S, HH — 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) - TRAY CABLE
T, U, V, W, X — VIDEO CAMERA DETECTION LEAD-IN CABLE
Y, Z, AA, BB — MICROLOOP PROBE LEAD-IN
CC — 12-PAIR COMMUNICATION CABLE (JELLY-FILLED)
DD — STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
EE, FF, GG — 1-CONDUCTOR ELECTRICAL CABLE (NO. 8 A.W.G.)

ML - MICROLOOP PROBE SET
PT - PROPOSED UNDERGROUND TELEPHONE SERVICE
PE - PROPOSED UNDERGROUND ELECTRICAL SERVICE
⏚ - 3/4 IN. X 10 FT. GROUND ROD



EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

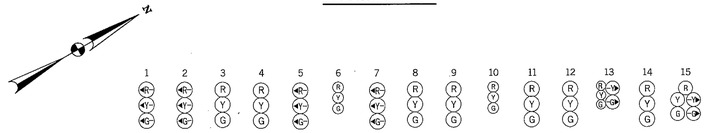
ITEM NO.	QUANTITY	DESCRIPTION
9000	1 EACH	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED ASC III CONTROLLER
9000	1 EACH	NEMA SIZE "S" BASE MOUNTED CABINET WITH INTERSECTION MONITOR
9571	68 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF (POLE MOUNT) :
		- 4 EACH D-3(1) SIGN (VARIABLE x 16 IN.) DUAL FACED - MAST ARM MOUNT
		- 1 EACH R3 - 6 SIGN (30 IN. x 36 IN.) - MAST ARM MOUNT
		- 2 EACH R3 - 5(R) SIGN (30 IN. x 36 IN.) - MAST ARM MOUNT

EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA

SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

PHASE CHART



PHASE 1 + 5	←G—	←G—	R	R	←G—	R	←G—	R	R	R	R	R	—R G→	R	—R G→
1 + 5 CHANGE	PHASE 1 + 5 MAY CHANGE TO PHASE 1 + 6, PHASE 2 + 5 OR PHASE 2 + 6														
PHASE 1 + 6	←G—	←G—	G	G	←R—	R	←R—	R	R	R	R	R	R	R	R
1 + 6 CHANGE	←Y—	←Y—	G	G	←R—	R	←R—	R	R	R	R	R	R	R	R
PHASE 2 + 5	←R—	←R—	R	R	←G—	G	←G—	G	G	R	R	R	—R G→	R	—R G→
2 + 5 CHANGE	←R—	←R—	R	R	←Y—	G	←Y—	G	G	R	R	R	—R Y→	R	—R Y→
PHASE 2 + 6	←R—	←R—	G	G	←R—	G	←R—	G	G	R	R	R	R	R	R
2 + 6 CHANGE	←R—	←R—	Y	Y	←R—	Y	←R—	Y	Y	R	R	R	R	R	R
PHASE 4 AND 8	←R—	←R—	R	R	←R—	R	←R—	R	R	G	G	G	G	G	G
4 AND 8 CHANGE	←R—	←R—	R	R	←R—	R	←R—	R	R	Y	Y	Y	Y	Y	Y
FLASHING OPERATION	← FL/R —	← FL/R —	FL/Y	FL/Y	← FL/R —	FL/Y	← FL/R —	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

ITEM NO.	QUANTITY	DESCRIPTION
1002	3 EACH	MAINTENANCE OF TRAFFIC
8002	2 EACH	ADJUST HANDHOLE TO GRADE WITH NEW FRAME AND COVER
8007	1 EACH	REM & DISPOSE MAT & EQUIP PER ASSIGN
8008	5 EACH	VIDEO DETECTION CAMERA & CABLE UP TO 500 FT
8014	400 L.F.	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES - SLOTTED
8015	400 L.F.	SCHEDULE 80 RIGID PVC CONDUIT UP TO 4 INCHES - TRENCHED
8016	450 L.F.	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8017	4 EACH	NONINVASIVE DETECTOR (ANY LENGTH) LEAD IN CABLE UP TO 1000 FT
8018	5 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8023	1 EACH	INSTALL CONTROLLER AND CABINET - BASE MOUNT
8024	1 EACH	EMBEDDED METERED SERVICE PEDESTAL
8025	100 L.F.	ELECTRICAL CABLE 1-CONDUCTOR NO. 8 AWG - THHN/THWN
8026	6 C.Y.	TEST PIT EXCAVATION
8027	50 S.F.	5 INCH CONCRETE SIDEWALK
8028-A	40 EACH	12 INCH LED SIGNAL HEAD SECTION
8029-A	9 EACH	8 INCH LED SIGNAL HEAD SECTION
8030-A	4 EACH	ANY SIZE LIGHTING ARM ON SIGNAL POLE WITH 250 WATT HPS LAMP & LUMINAIRE
8031-A	2 EACH	MAST ARM POLE & 60 FT MAST ARM ANY 'T' DIMENSION
8032-A	1 EACH	MAST ARM POLE & 70 FT MAST ARM ANY 'T' DIMENSION
8033-A	1 EACH	MAST ARM POLE & 50 FT MAST ARM ANY 'T' DIMENSION
8034-A	1070 L.F.	12 - PAIR COMMUNICATION CABLE, SELF-SUPPORTING OR JELLYFILLED
8035-A	68 S.F.	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)
8036-A	2 EACH	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
8037-A	70 L.F.	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
8038-A	2750 L.F.	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
8039-A	845 L.F.	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG) TC

TOD NO: XX648-06
SHA NO: BA098B54
MD 139; Malvern Ave/GBMC Entrance

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 139 (Charles Street) and Malvern Avenue/GBMC Entrance
Towson, MD

GENERAL INFORMATION SHEET

SCALE NONE ADVERTISED DATE 10/3/2011 CONTRACT NO. XX6485185

DESIGNED BY S. Bloss
DRAWN BY S. Bloss
CHECKED BY N. Leary
F.A.P. NO.

COUNTY Baltimore
LOGMILE 03013901.67
TIMS NO. K988
TOD NO.

TS NO. 1841 D | DRAWING TSP-4 OF 4 | SHEET NO. 4 OF 4

WR&A
WHITMAN, REQUARDT & ASSOCIATES, LLP
801 South Caroline Street, Baltimore, Maryland 21231

PLOTTED: October 05, 2011
FILE: N:\3088-174\CADD\pSG-N004_K988.dgn

BY: sbloss